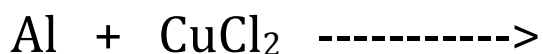


Redox Intro Notes

Oxidation-Reduction Reactions:

Redox reactions involve the _____ between two atoms or ions.

Example:



*** oxidation and reduction must both occur at the _____

OILRIG

Oxidation is the process by which electrons are removed from an atom or ion

Example:

Reduction is the process by which electrons are added to an atom or ion

Example:

Sample redox reactions:

Rusting:

Burning:

Terminology:

Oxidizing agent – substance that gains electrons

Reducing agent – substance that loses electrons

H	Metals, Nonmetals, and Metalloids																He	
Li	Be											B	C	N	O	F	Ne	metals
Na	Mg											Al	Si	P	S	Cl	Ar	
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr	metalloids
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe	
Cs	Ba	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn	nonmetals
Fr	Ra	Ac	Rf	Db	Sg	Bh	Hs	Mt	Ds	Rg	Uub	—	Uuq	—	—	—	—	
			Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu		
			Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr		

Oxidation numbers – the charge an atom or ion has

Rules:

- 1) Any pure element = 0 (even diatomics)
- 2) The oxidation number of oxygen in a compound = 2
- 3) Elements in 1A, 2A, and Aluminum in a compound will have their normal oxidation number from the periodic table
- 4) The sum of the oxidation numbers in a compound = 0
- 5) The sum of the oxidation numbers in an ion = the charge of the ion

Problems:

Calculate the oxidation number for N in each of the following:



Calculate the oxidation number of each element in the compound Na_2SO_4

Determine which of the following underwent oxidation and which underwent reduction:

